



COMMONWEALTH OF MASSACHUSETTS

Charles Baker, Governor

Matthew Beaton, Secretary

Judith Judson, Commissioner

RSC II Municipal Permitting Case Studies

*RSC II Municipal Permitting
Case Studies
February 25, 2016*



*Tony Barletta and Kara Sergeant,
Department of Energy Resources*

*Chad Laurent and Will Hanley,
Meister Consultants Group*

Recording & Presentation

- The webinar is being recorded and will be available on our website in approximately 48 hours at:
<http://www.mass.gov/eea/energy-utilities-clean-tech/webinars.html>
- Click on the camera icon top right of your screen to save any slides for future reference
- Use the Q & A icon on your screen to type in questions
- The slide presentation will also be posted at:
<http://www.mass.gov/eea/energy-utilities-clean-tech/webinars.html>

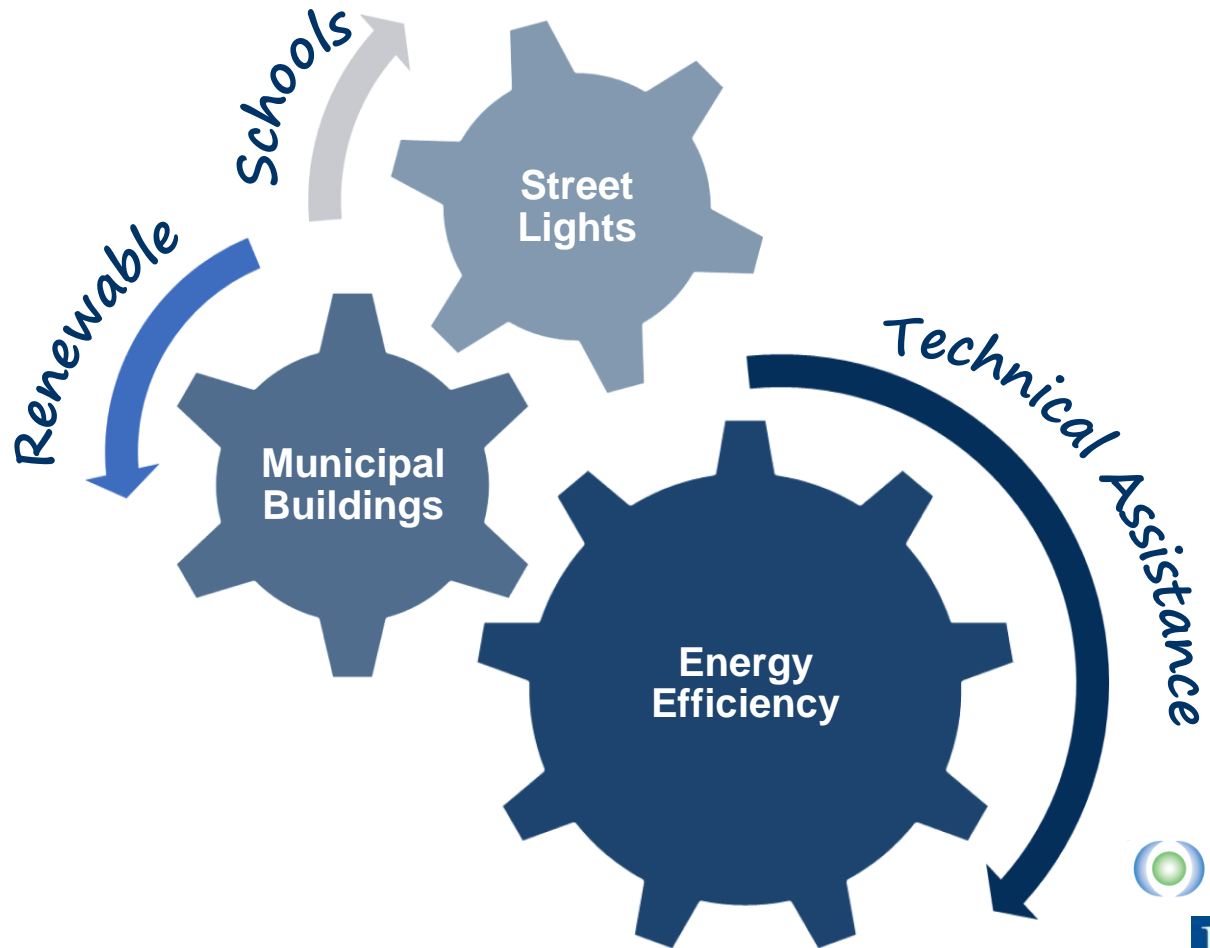


Helping Massachusetts Municipalities Create A Cleaner Energy Future



Green Communities Division

The energy hub for ***all*** Massachusetts cities and towns, not just designated “Green Communities.”



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Outreach - Regional Coordinators

- Regional Coordinators act as direct liaisons with cities and towns on energy efficiency and renewable energy activities
- Located at each of the DEP Regional Offices:



WERO – SPRINGFIELD: Jim Barry
Jim.Barry@state.ma.us



NERO – WILMINGTON: Joanne Bissetta
Joanne.Bissetta@state.ma.us



CERO – WORCESTER: Kelly Brown
Kelly.Brown@state.ma.us



SERO – LAKEVILLE: Seth Pickering
Seth.Pickering@state.ma.us



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Green Communities Division - Programs & Resources for Municipalities

- Green Communities Designation and Grant Program
- MassEnergyInsight energy tracking and analysis tool
- Municipal Energy Efficiency Assistance
- Energy Management Services Technical Assistance
- Mass Municipal Energy Group (MMEG)
- Website filled with tools & resources:
www.mass.gov/energy/greencommunities

Email updates via e-blasts – Sign up by sending an email to:
join-ene-greencommunities@listserv.state.ma.us



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Green Communities 2016 Competitive Grant Program

- The Green Communities 2016 competitive grant application program is now available on Commbuys and the Green Communities Division website.
- To be eligible, Green Communities must have:
 - Expended all prior Green Communities designation and competitive grant funds;
 - Submitted their FY 2015 Annual Report and satisfied all outstanding questions no later than 5 pm February 12, 2016
 - Submitted their final grant report and satisfied all outstanding questions no later than 5 pm February 26, 2016
 - Completed all site inspections with your regional coordinator by March 11, 2016
- All questions on the application must be submitted through Commbuys by 5pm on March 18, 2016.
- Applications must be submitted online by 5pm on March 25, 2016. You must be registered to access.



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Massachusetts

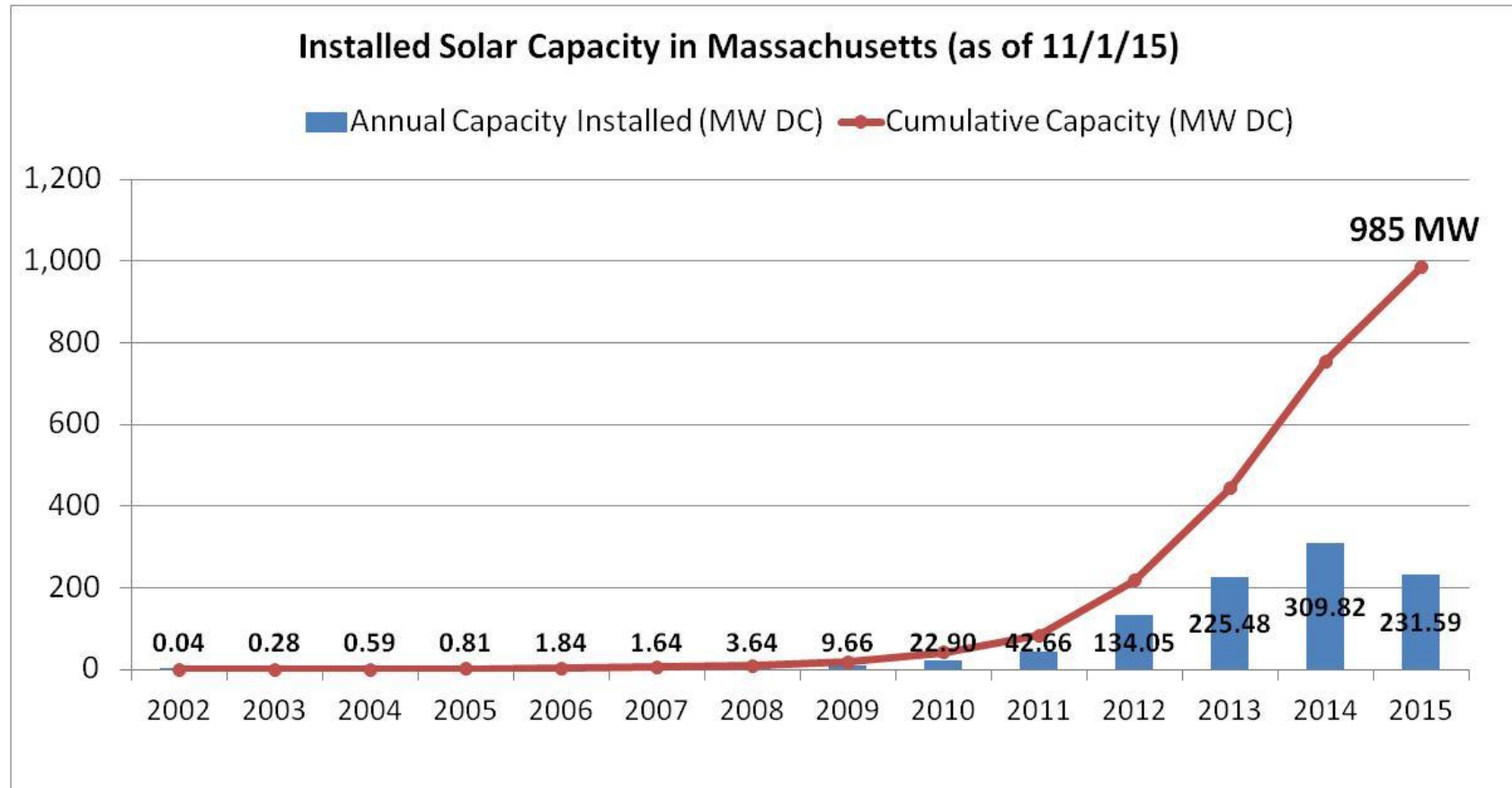
- **MA DOER** - develops and implements policies and programs aimed at ensuring the adequacy, security, diversity, and cost-effectiveness of the Commonwealth's energy supply
<http://www.mass.gov/eea/grants-and-tech-assistance/guidance-technical-assistance/agencies-and-divisions/doer/>
- **Green Communities Division** - strives to help all 351 Massachusetts cities and towns find clean energy solutions that reduce long-term energy costs and strengthen local economies
<http://www.mass.gov/eea/energy-utilities-clean-tech/green-communities/>
- **Mass Clean Energy Center (MassCEC)** - dedicated to accelerating the success of clean energy technologies, companies and projects in Massachusetts—while creating high-quality jobs and long-term economic growth for the people of Massachusetts <http://www.masscec.com/>



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MA Maturing Solar Market



Massachusetts has an aggressive target of 1600 MW of solar power installed for 2020. The above figures represent the cumulative amount installed as of November 2015, in 35,937 projects.



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DOE Rooftop Solar Challenge Round I

- **Goal:** Reducing soft costs of small commercial and residential rooftop solar PV
 - Created an implementation guide for Community Shared Solar (CSS)
 - Reviewed and developed model local permitting process, including guidance for structural review
 - Developed model solar bylaw zoning language



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Rooftop Solar Challenge Round II: New England Solar Cost-Reduction Partnership

- Part of a five-state regional effort to target non-hardware “soft” costs for photovoltaic (PV) electricity systems and increasing coordination
- Coordinated by national energy non-profit Clean Energy States Alliance (CESA)
- Focused on:
 - permitting and interconnection challenges;
 - the need for new financing tools; and
 - planning and zoning rule variations



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Introduce Meister

*Chad Laurent and Will Hanley,
Meister Consultants Group*

Poll Question 1:

- Have you seen MA DOER Model Permitting Guide for Municipalities?
 - Yes
 - No

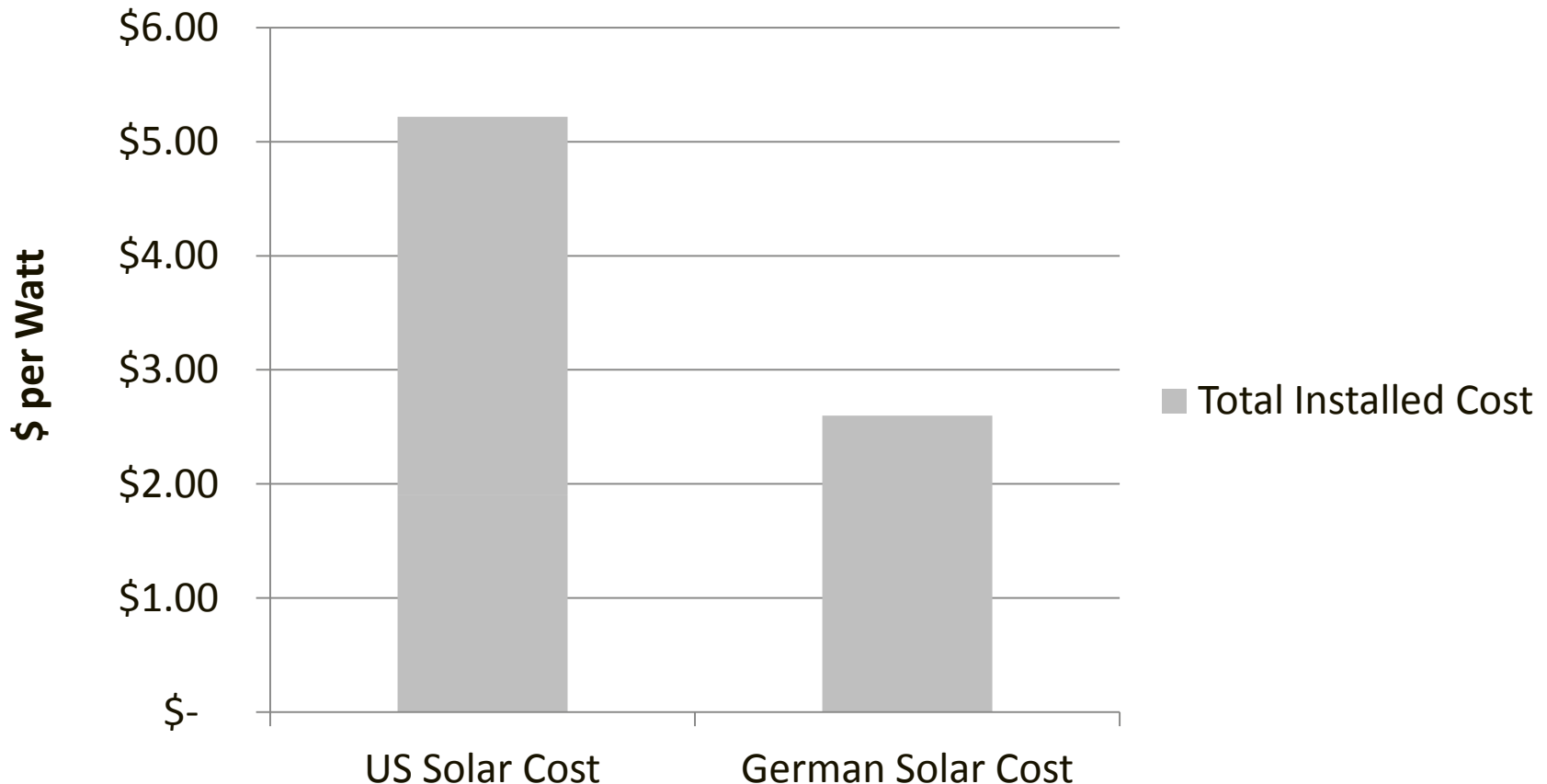


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The Cost of Solar in the US

Comparison of US and German Solar Costs



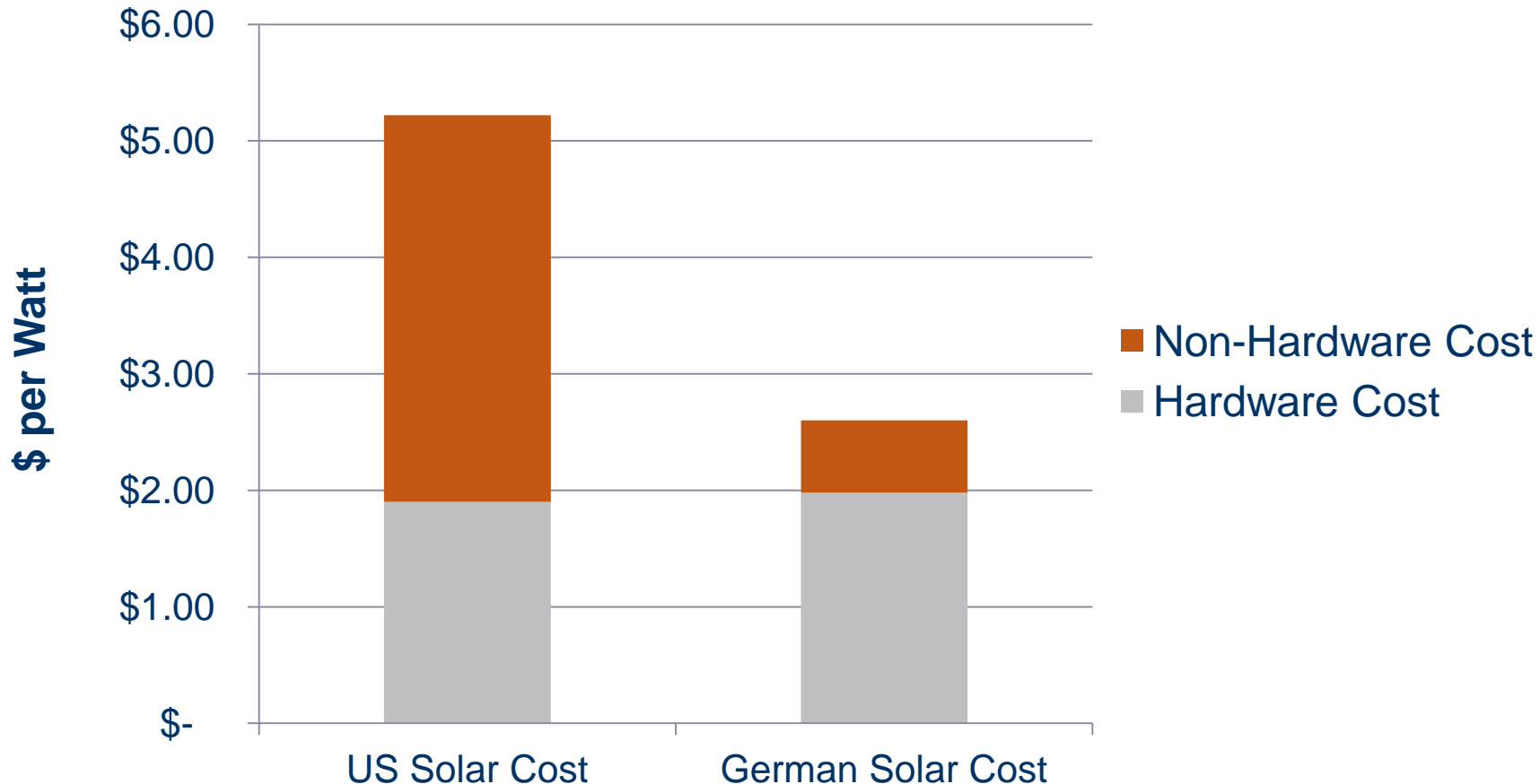
Source: NREL (<http://www.nrel.gov/docs/fy14osti/60412.pdf>)
LBNL (<http://emp.lbl.gov/sites/all/files/lbnl-6350e.pdf>) (http://www1.eere.energy.gov/solar/pdfs/sunshot_webinar_20130226.pdf)

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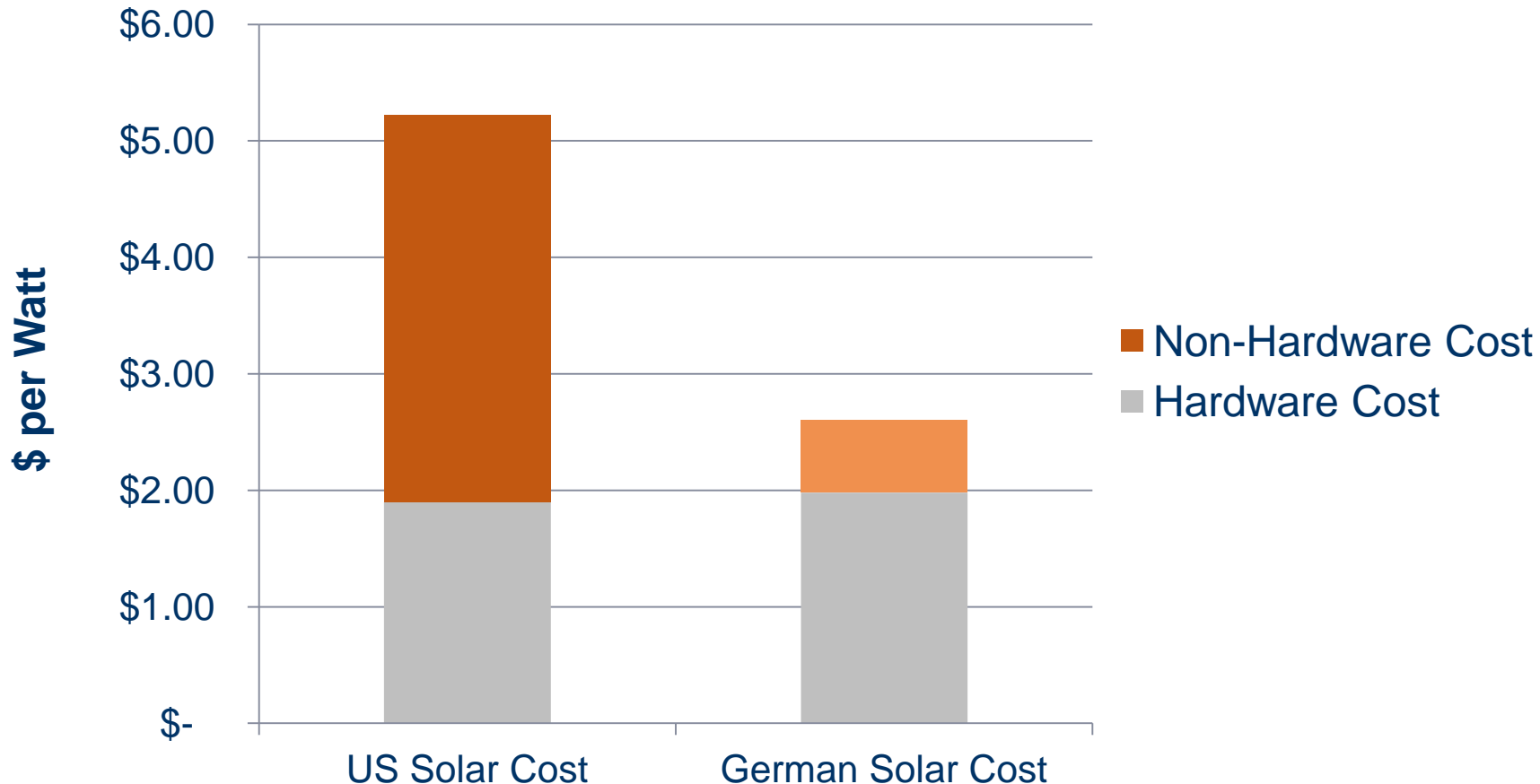
LBNL (<http://emp.lbl.gov/sites/all/files/lbnl-6350e.pdf>) (http://www1.eere.energy.gov/solar/pdfs/sunshot_webinar_20130226.pdf)



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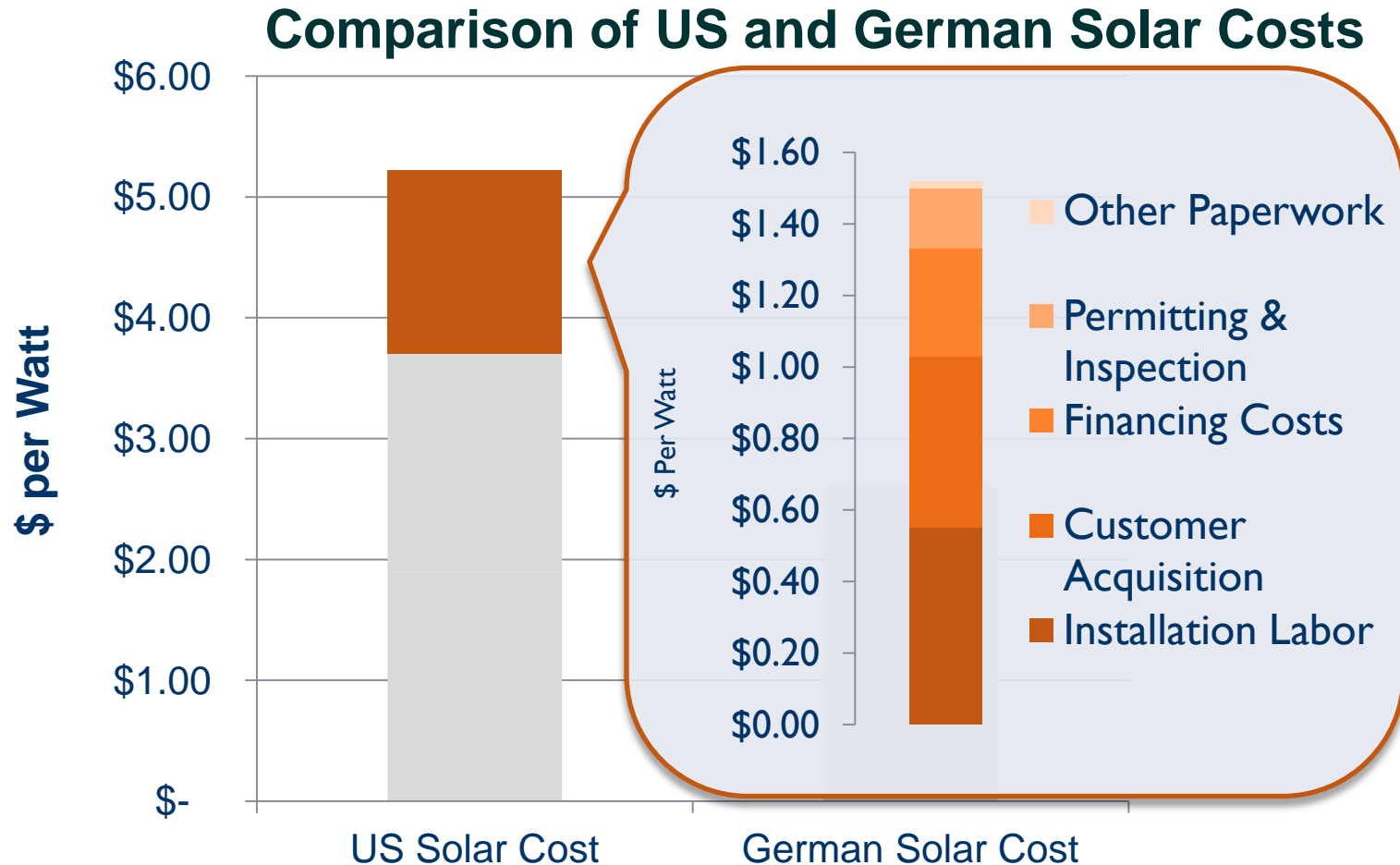
Source: NREL (<http://www.nrel.gov/docs/fy14osti/60412.pdf>)

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The Cost of Solar in the US



Challenge: Installation Time



New York City's
Goal

100 days

from inception to completion



Germany
Today

8 days

from inception to completion



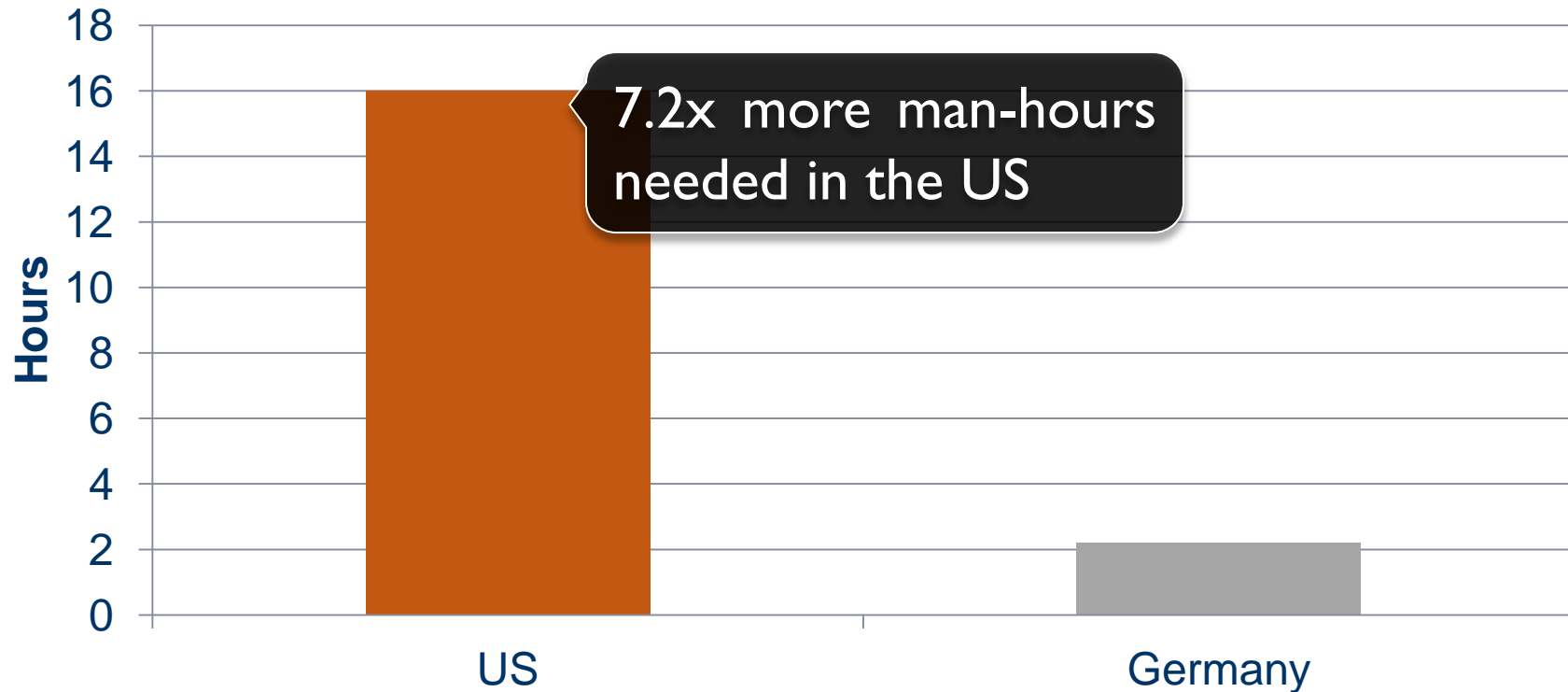
Photon Magazine



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Time to Installation

Average Time to Permit a Solar Installation



Source: NREL, LBNL



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Permitting Costs

Average Cost of Permitting in the US and Germany



Germany's Success

Consistency and Transparency

through

Standardized Processes



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Poll Question 2

- For Solar Installers: How important is a streamlined permitting process in choosing which jurisdiction to be active?
 - Extremely Important
 - Important
 - Moderately Important, but doesn't affect our decision-making
 - Not important at all

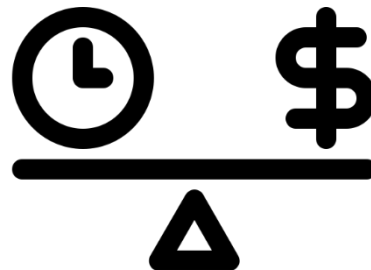


Why Streamline Permitting for Solar?

Promote Standards and Safety

Save Time and Taxpayer Dollars

Grow Local Economies



What Did We Do?

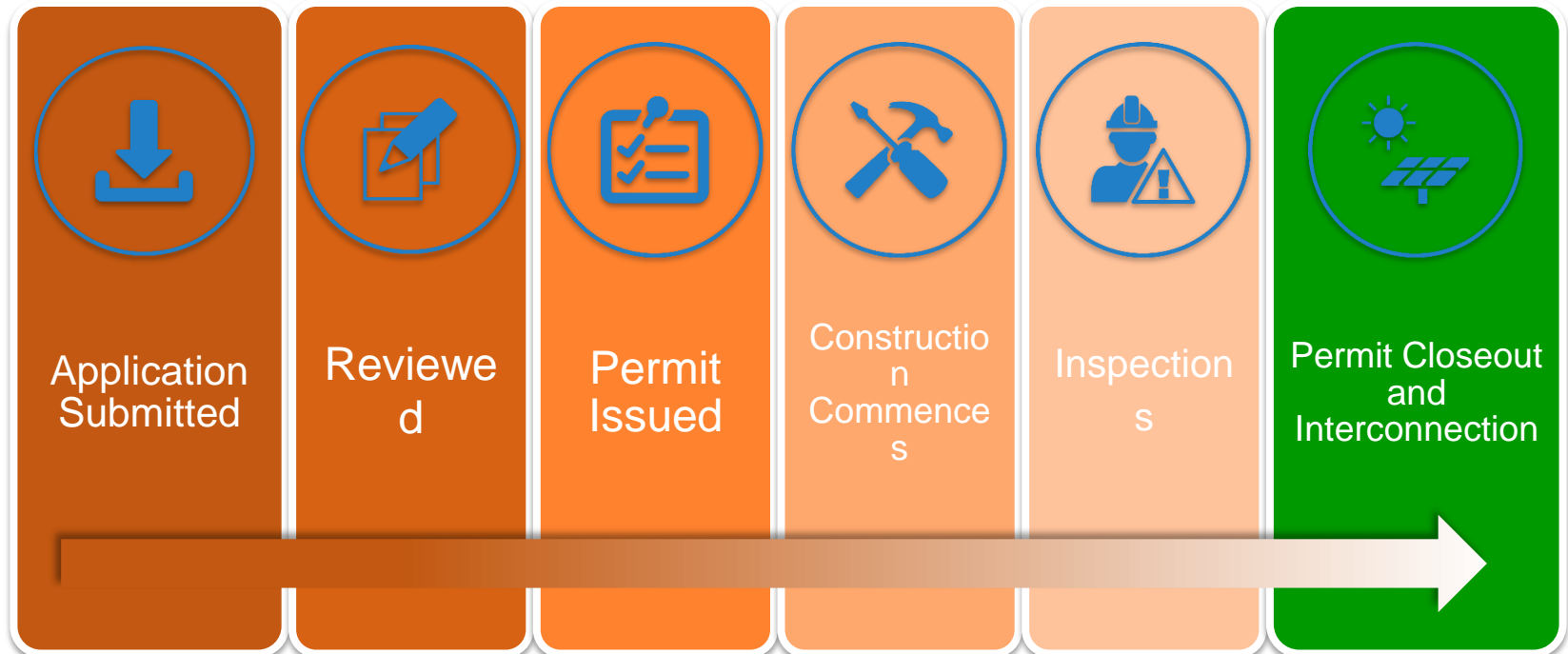
- Interviewed 34 jurisdictions to get a snapshot of permitting processes across the state.
- Reviewed any changes in permitting fees or processes over the past 3 years.
- Developed 4 case studies to highlight best practices for solar PV permitting processes.



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Permitting Process 101



Who Did We Ask?



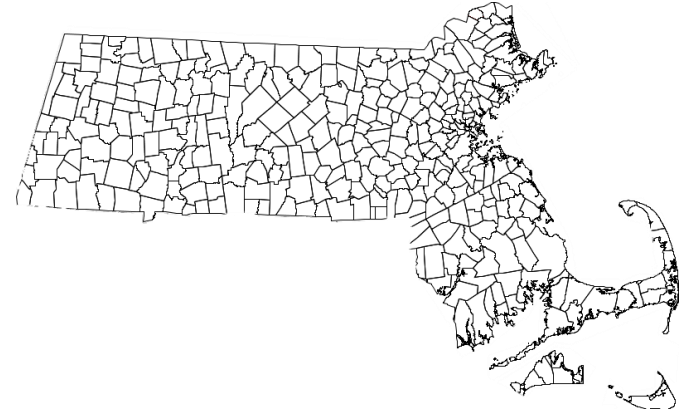
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Interview Structure



What Did We Find?

- Variability of Processes
 - 1 Day – 1 Month
- Variability of Fees
 - \$125 - \$625



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Impacts Of Various Permitting Processes On Stakeholders

- Building Departments
 - Application Quality
- Installers
 - Consistency
- Residents
 - Uncertainty and Added Costs



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We Selected Four Community Case Studies

- Boston
- Northampton
- Pittsfield
- Wellfleet



Boston

- Long Form and Short Form
- Solar Fast Track Program
- Outreach and Education

Population
645,000
Location
Suffolk County
Solar PV Installations
1,116
Generation Capacity
> 12.7 MW

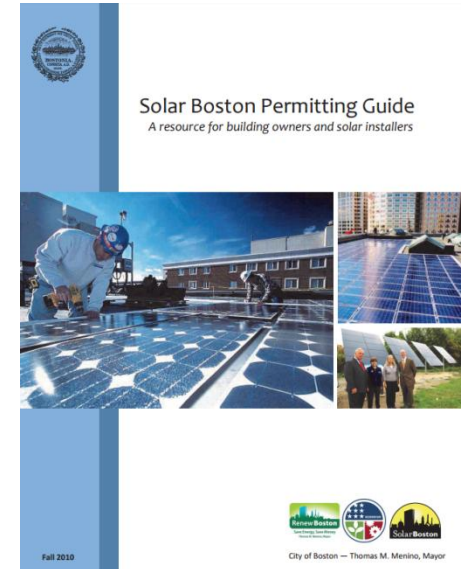
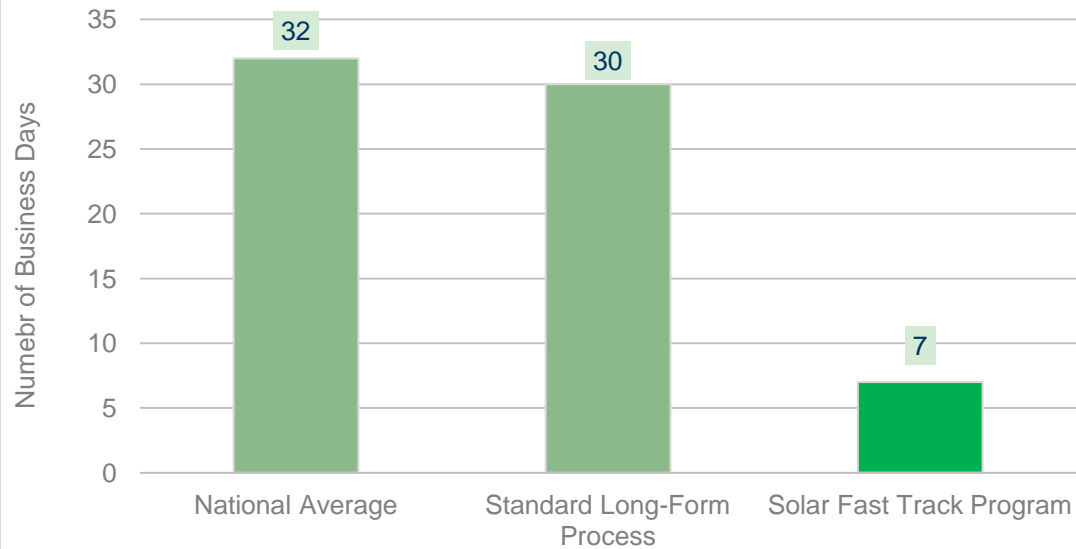


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Boston

Processing Time for Long-Form Solar Building Permits & Electrical Permits

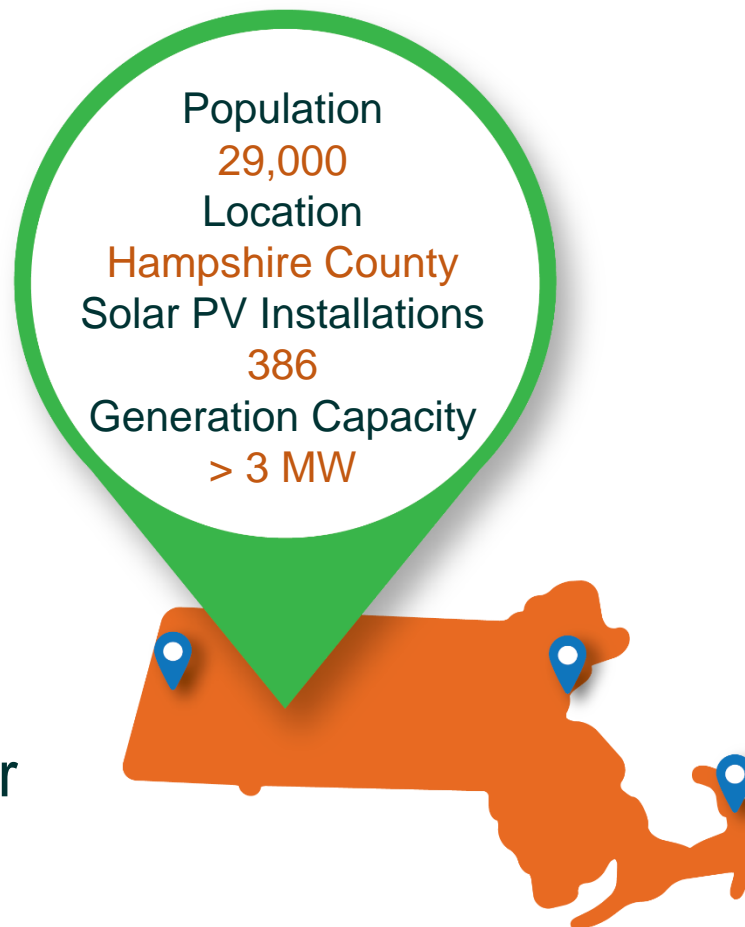


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Northampton

- Early Adoption
- Teamwork
- Specialization
- Simplified Fees
- Commercial Calculator



Northampton

PV Permit Fee Calculator for Commercial Systems

Written by Scott Troyer & Kurt Newick

Jurisdiction Name:

City of Northampton

Project Address:

Project Address Here

PV Project Size (kW DC):

25

Fee Details	Building Permit	Electrical Permit
Fee	\$ 75	\$ 60

	Select Separate Reviews Required	Input Average Review Hours		Hours Computed for PV Project Size
		10 kW	100 kW	25 kW
PV Plan Reviews				
Electrical Plan Review N/A	<input checked="" type="checkbox"/> TRUE	0.5	1.5	0.8
Structural Plan Review (1st cycle)	<input checked="" type="checkbox"/> TRUE	0.5	1.5	
Clerical Time for 1st cycle	<input checked="" type="checkbox"/> TRUE	0.4	0.5	0.4
Subtotal, Plan Review (1st cycle)		1.4	3.5	1.3
2nd Cycle Review %	20%	0.1	0.4	0.1
Total, Plan Review (nearest 1/2 hr.)		1.5	3.9	1.5
PV Inspections				
Rooftop Array	<input checked="" type="checkbox"/> TRUE	0.5	1.0	0.7
Ground Array	<input type="checkbox"/> FALSE	0.5	1.0	0.0
Electrical Inspection N/A	<input checked="" type="checkbox"/> TRUE	0.5	2.0	0.7
Subtotal, Inspection (1st cycle)		1.5	4.0	
Inspection Turn Down Rate %	20%	0.225	0.6	0.1
Total, Inspection (round to 1/2 hr.)		1.7	4.6	1.0
Jurisdiction's Billable Rates				
Permit Issuance Fee:		\$55.00		
Plan Reviewer Billable Hourly Rate		\$145.00		
Inspector Billable Hourly Rate		\$150.00		
Clerical Billable Hourly Rate		\$50.00		
Total Hours (Plan Review & Inspection), nearest 1/2 hr.		3.5	8.5	2.5
Total Calculated PV Permit Fee				\$329

Logarithmic Factor (to compute fee): 1.325195741



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Pittsfield

- Berkshire Online Permitting Program
- Improved Communication
- Time Reduction

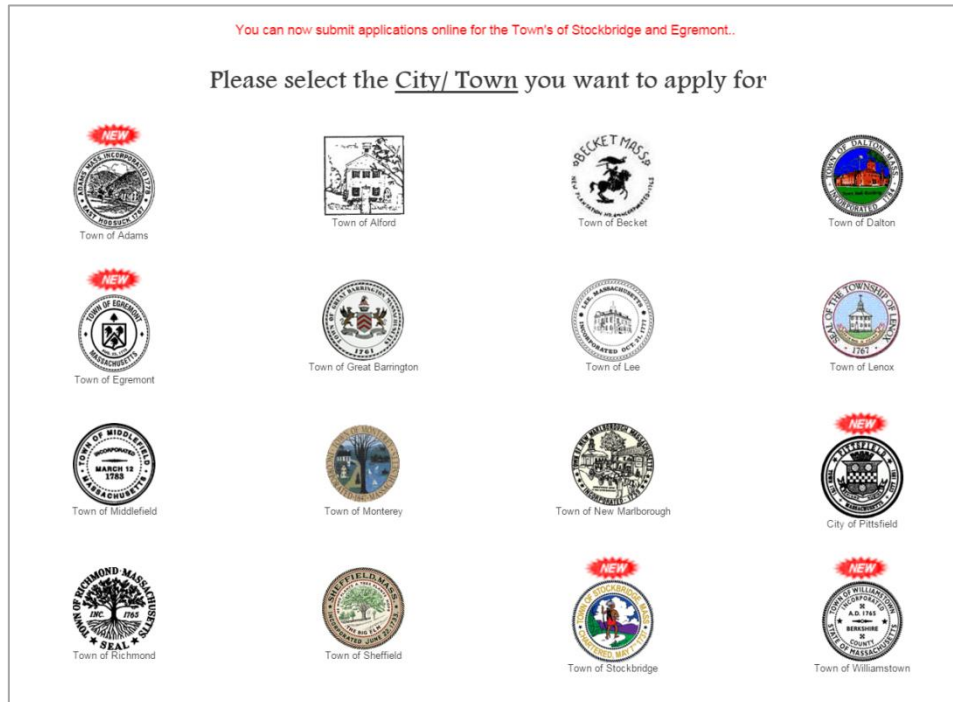


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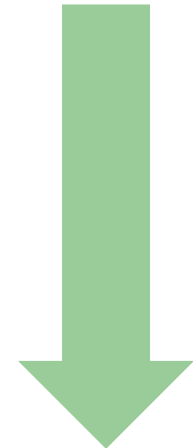


Pittsfield

Berkshire Online Permitting Website



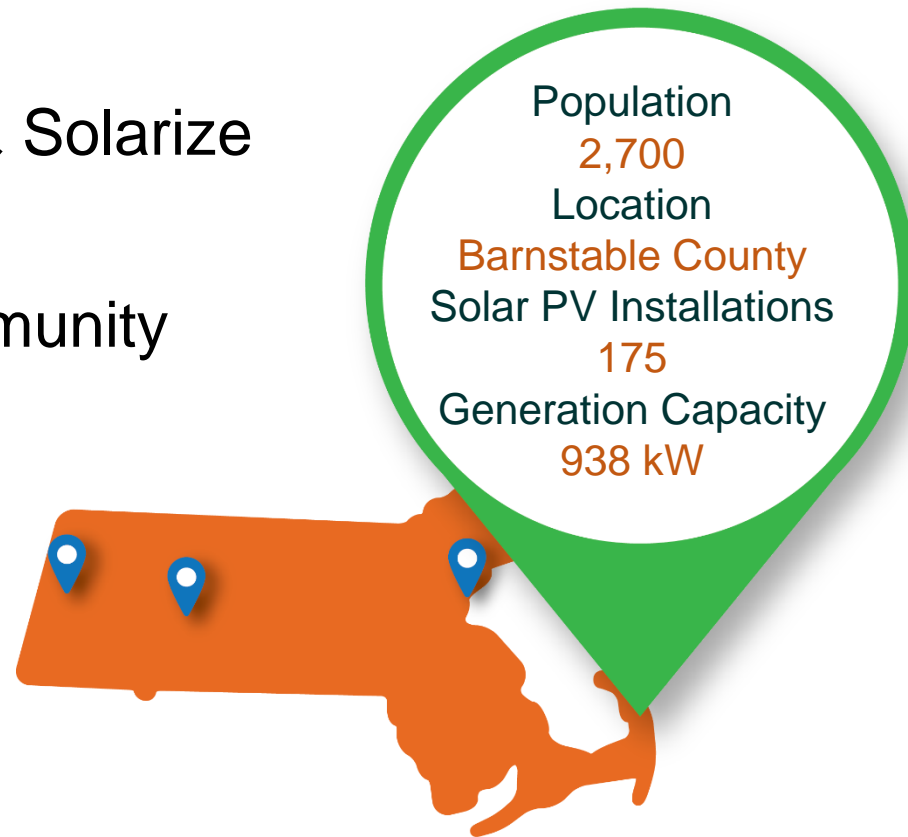
2-3 Weeks



2-3 Days

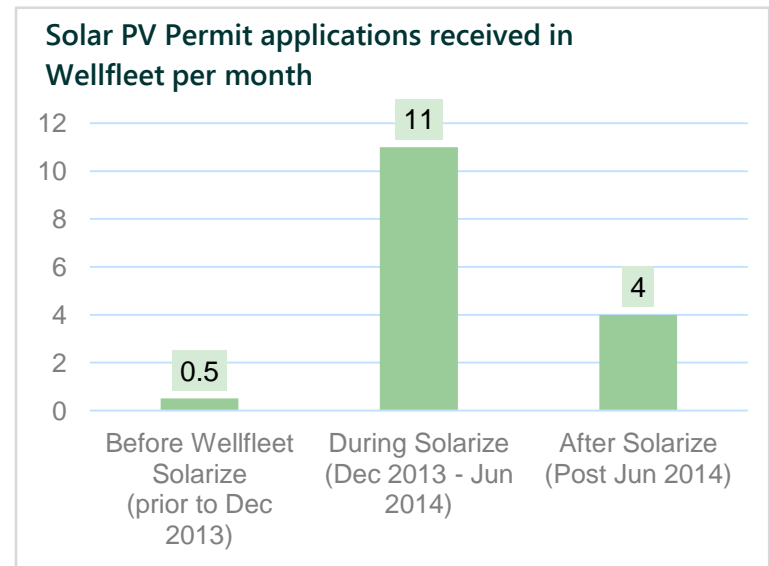
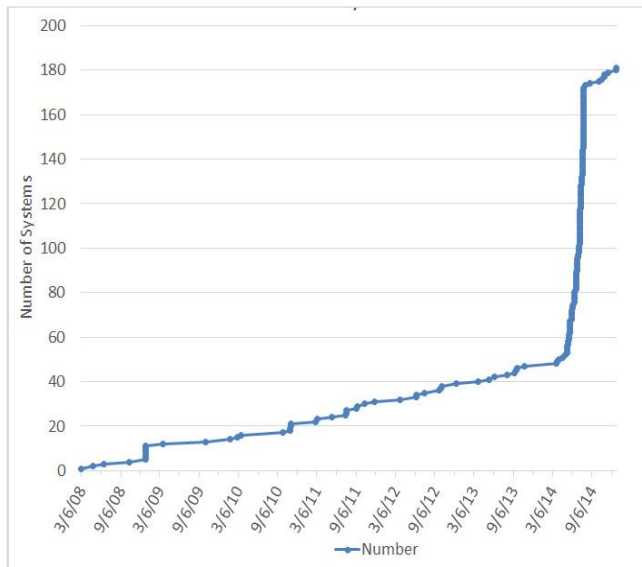
Wellfleet

- Forward Thinking & Solarize
- Engaging the Community
- Checklist



Wellfleet

Growth of Solar PV Permit Applications and Systems



Poll Question 3

- What are the biggest barriers to streamlining your permitting process?
 - Lack of Staff
 - Lack of funding
 - Lack of Training and Informational Resources
 - Our jurisdiction requires in-depth permitting process
 - Other



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Needs and Barriers



Resources



Staffing



Trainings



Transparency

Existing Solutions in MA

- ✓ Model Permitting Guide
- ✓ Specific Solar Price Carve Outs
- ✓ Increased Transparency and Outreach
- ✓ Online Integration



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High Impact, Low Cost Solutions



Downloadable Application Form



Permitting Checklist



Inspector Specialization



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Elsewhere in New England



Connecticut

- Permitting Guide
- Online Permitting Demo



Vermont

- Permit Issuance Automation



New Hampshire

- Streamlined Permitting Pilot



Rhode Island

- Permitting Guide
- All Municipalities Will Have Online Permitting

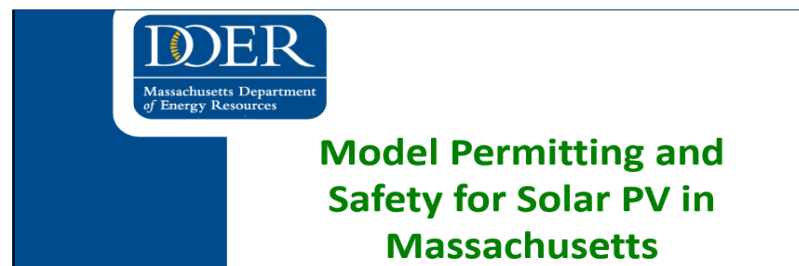


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Next Steps

- Check out case studies – coming soon.
- Great resources from CESA and DOER
- Seek technical assistance as part of SPARC designation



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QUESTIONS??

Kara Sergeant at kara.sergeant@state.ma.us

Renewable Energy Program Coordinator



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